

### **REMARKS**

Claims 1-5, 7-22 and 24-25 are now pending in the application. Claims 1-25 stand rejected. Claims 6 and 23 have been cancelled; and Claims 1, 7, 8, 10-12, 14, 18-22, and 24-25 have been amended. Bases for the amendments and support for the new claim can be found throughout the application, drawings and claims as originally filed and, as such, no new matter has been presented. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the amendments and remarks contained herein.

### **DRAWINGS**

The undersigned gratefully acknowledges the Examiner's acceptance of the drawings filed on February 24, 2003.

### **CLAIM AMENDMENTS**

Claims 1, 8, 14, 19, 21, 22, and 24-25 have been amended to more particularly define Applicant's teachings. Claims 7, 10-12, 18, and 20 have been amended to correct various informalities.

### **REJECTION UNDER 35 U.S.C. §§ 102 AND 103**

Claims 1 and 5 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Cain et al. (U.S. Patent Application No. 2003/0193919; hereinafter "Cain"). Claim 2 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Cain in view of Walsh (WO 94/08405 ; hereinafter "Walsh"). Claim 4 stands rejected under 35 U.S.C. §

103(a) as being unpatentable over Cain in view of Shimasaki et al. (U.S. Patent No. 3,789,142; hereinafter "Shimasaki"). Claim 7 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Cain in view of Campanella et al. (U.S. Patent No. 4,792,963; hereinafter "Campanella"). Claims 3, 6 and 8-18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Cain in view of Vatt et al. (EP 0 571 740; hereinafter "Vatt"). These rejections are respectfully traversed.

Initially, with regard to Cain, Cain appears to disclose the use of a guard time 24a, 24b which is selected based on the maximum range between the nodes (see at least [0060] through [0061]). Cain is silent as to the calculation of the time of flight between the nodes, and rather selects the guard time based on a maximum distance between the nodes, and not the **actual** distance between the nodes. The guard time of Cain is then added to the transmission time such that the transmission time is **longer** than a time of flight of Cain.

In contrast, Applicant notes that independent Claim 1 has been amended to recite:

a plurality of nodes including a plurality of receive antennas for receiving a plurality of radio frequency (RF) bursts and a plurality of transmit antennas for transmitting said RF bursts, **a duration of said RF bursts being shorter than a time of flight (TOF) between said nodes;** (emphasis added)

Additionally, independent Claim 8 recites:

**calculating** time of flight (TOF) of a transmission from said first node to said second node at said second node **using current locations of said first node and said second node;** (emphasis added)

Further, Applicant notes that independent Claim 14 has been amended to recite:

determining a current location for each one of a plurality of nodes, a plurality of each of said nodes including a node control for determining node location;

**calculating** a time of flight (TOF) between a sending node of said plurality of nodes, and a subplurality of receiving nodes of said plurality of nodes based on the **current location** of the sending node of the plurality of nodes and the **current location** of the subplurality of receiving nodes;

transmitting a plurality of radio frequency (RF) bursts from said sending node to said receiving nodes using a plurality of transmitting phased array antennas (PAAs) **based on the calculated TOF**, said transmitting PAAs operating in accordance with a plurality of transmitting slots; (emphasis added)

Applicant respectfully submits that these features are not taught nor suggested by Cain. The Examiner has stated that Vatt discloses this feature. Vatt discloses merely using a look-up table to determine an appropriate duration for the transmission (see at least Column 10, lines 10-15). The look-up table of Vatt provides constants for the propagation delay between satellites 12 where the constants are based on the fact that the satellites 12 of Vatt remain a constant distance apart. Thus, Vatt does not need, teach or suggest, calculating a TOF based on a current location of the nodes (or a TOF whatsoever), as the nodes in Vatt are always separated by a constant distance.

Applicant further respectfully asserts that the Office is improper in its argument that because Vatt uses a look-up table that the TOF's in Vatt are calculated. Vatt does not disclose or suggest that these values are indeed calculated by the system. If the Examiner is relying on the concept of "inherency" as support for the rejection based on Vatt, in this regard, the CCPA has added:

Inherency, however, **may not be established by probabilities or possibilities**. The mere fact that a certain

thing *may* result from a given set of circumstances is not sufficient. *In re Oelrich*, 666 F.2d 578, 581, 212 USPQ 323, 326 (C.C.P.A. 1981) (quoting *Hansgirk v. Kemmer*, 102 F.2d 212, 214, 40 USPQ 665, 667 (C.C.P.A. 1939) (emphasis added)).

Applicant submits that the Vatt reference is silent about the assorted inherent characteristics of calculating the TOF and, moreover, that the Office has not presented any extrinsic evidence that would make clear that the missing description matter is disclosed in the Vatt reference or would necessarily be obvious after viewing the Vatt reference.

Further, even if the rejection based on the combination of Cain and Vatt was not based on likelihood, probabilities and possibilities, it is improper for the Office to modify Cain with Vatt to include such features as claimed herein. Specifically, Cain does not suggest a desirability or motivation for making such a modification. Rather, Cain actually teaches away from such a modification as Cain expressly teaches the use of RF bursts that are longer than the TOF, and modifying Cain with Vatt would impermissibly (and significantly) change the method of operation of Cain.

Specifically, if a proposed modification would render the prior art subject matter being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984) MPEP 2143.01. Additionally, if the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (C.C.P.A. 1959) MPEP 2143.01.

As modifying Cain would change the principle of operation of Cain, Applicant respectfully submits this rejection is improper. Accordingly, in view of the above discussion, Applicant respectfully requests reconsideration and withdrawal of the rejections of Claim 1 under 35 U.S.C. § 102(b) and Claims 8 and 14 under 35 U.S.C. § 103(a).

With regard to Claims 2-5, 7 and 9-13, these claims depend directly or indirectly from independent Claims 1 or 8 and, thus, should be in condition for allowance for the reasons set forth for Claims 1 and 8 above. Accordingly, Applicant respectfully requests the Examiner reconsider and withdraw the rejection of Claim 5 under 35 U.S.C. § 102(b) and Claims 2-5, 7 and 9-13 under 35 U.S.C. 103(a).

Claims 19-21 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Cain. This rejection is respectfully traversed.

With regard to independent Claim 19, Applicant notes independent Claim 19 has been amended to recite:

updating a current status of said second node to accommodate a desired transmission link capacity by:

using said first node to estimate a plurality of transmit TDMA slots and a plurality of receive TDMA slots to be removed to reduce link capacity;

selecting said transmit TDMA slots and said receive TDMA slots to be removed by said first node **based on a user-defined criteria**; and

sending to said second node a request for removing **certain** of said transmit TDMA slots and certain of said receive TDMA slots; (emphasis added)

Applicant respectfully asserts that Cain does not disclose these features as claimed herein. Specifically, Cain discloses deselecting “**all** of the time slots which are shared with the other node” and not removing or deselecting **certain** of the time slots (see at least [0133] of Cain, emphasis added). Further, Cain does not disclose whatsoever removing or deselecting time slots based on a user-defined criteria. Applicant further notes it is improper to modify Cain to include such features as claimed as it would impermissibly modify the principle of operation of Cain, and further, there is no suggestion in Cain of the desirability of such a modification.

Accordingly, as Cain does not teach or suggest every element as claimed in independent Claim 19, Applicant respectfully requests the Examiner reconsider and withdraw the rejection of Claim 19 under 35 U.S.C. § 102(b). With regard to Claims 20 and 21, these claims depend from independent Claim 19 and, thus, should be in condition for allowance for the reasons set forth for Claim 19. Accordingly, Applicant respectfully requests the Examiner reconsider and withdraw the rejection of Claims 20 and 21 under 35 U.S.C. 103(a).

Claims 22-23 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Voce (U.S. Patent No. 6,246,874; hereinafter “Voce”) in view of Cain. Claim 24 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Voce in view of Cutler, Jr. et al. (U.S. Patent No. 5,678,184; hereinafter “Cutler”). Claim 25 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Voce in view of Cutler and further in view of Cain. These rejections are respectfully traversed.

Independent Claim 22 has been amended to recite:

estimating a time of occurrence of said cross-over;

communicating by said first node a first list of a **plurality of available slots associated with said second PAA and an estimated time of said cross-over** to a second node selected from said nodes;

identifying, by said second node, a plurality of acceptable slots from said first list offered by said first node to create a second list;

communicating, by said second node, said second list of said acceptable slots to said first node; and

operating said link between said first node and said second node using said acceptable slots from said second list beginning at said estimated time of said cross-over. (emphasis added)

Further, independent Claim 24 has been amended to recite:

reassigning a transmission of said RF bursts from said first node to said third node for avoiding said overlap by:

identifying a plurality of transmission slots available on said first node at the time of occurrence of said overlap, said transmission slots being associated with said first antenna, said transmission slots being intervals for transmission of said RF, said transmission slots including a selection of said transmission slots becoming available upon resolving of said overlap;

creating a first list comprised of said plurality of transmission slots available on said first node;

creating a **second list of said transmission slots to be eliminated** for avoiding said overlap;

**communicating from said first node to said third node said first list, said second list, and a point of time for elimination of said slots** in said second list. (emphasis added)

Applicant respectfully submits that these features as claimed are not taught nor suggested by Voce, Cutler or Cain, either alone or in combination.

First, as noted by the Office, Voce and Cutler each do not teach or suggest whatsoever the process of reassigning nodes to prevent an overlap. The Office states that Cain discloses these features. Applicant respectfully asserts that Cain does not teach or suggest whatsoever a method for reassigning links in the event of a cross-over. The Office has referenced paragraphs [0114-0116], however, these paragraphs deal with link scheduling, and more particularly with the assignment of semi-permanent slots (see at least [0111] of Cain). Furthermore, Cain does not disclose whatsoever any slot reassignment procedures in the case of cross-over as claimed herein. Thus, as neither Voce, Cutler nor Cain teach or suggest the subject matter of independent Claims 22 and 24, Applicant respectfully requests the Examiner reconsider and withdraw the rejection to Claims 22 and 24 under 35 U.S.C. § 103(a).

With regard to Claims 23 and 25, these claims depend from independent Claims 22 and 24 and, thus, should be in condition for allowance for the reasons set forth for Claims 22 and 24. Accordingly, Applicant respectfully requests the Examiner reconsider and withdraw the rejection of Claims 23 and 25 under 35 U.S.C. 103(a).

### **CONCLUSION**


It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action and the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner



believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

Dated: February 28, 2006

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